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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/593,364

03/28/2007

Stuart Arthur Bateman

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EXAMINER

JOLLEY, KIRSTEN

ART UNIT

PAPER NUMBER

1715

MAIL DATE

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10/27/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/593,364	<b>Applicant(s)</b> BATEMAN ET AL.	
	<b>Examiner</b> Kirsten C. Jolley	<b>Art Unit</b> 1715	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) 3,8,9,12-22 and 28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-2,4-7,10-11,23-27,29-43 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/30/09, 3/3/08</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of first species of "low molecular weight amines" and second species "ester based solvents" in the reply filed on August 18, 2010 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 3, 8-9, 12-22, and 28 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to the nonelected species, there being no allowable generic or linking claim.

### ***Claim Objections***

3. Claim 7 is objected to because of the following informalities:

In claim 7, line 3, "polyethylene imines (PE1)" appears to be a typographical error and should be --PEI-- instead of "PE1".

It is additionally noted that in claim 28, "ethoxyetheylacetate" appears to be a misspelling and should be --ethoxyethylacetate--.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 34-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 34-36 recite the limitation "and additive" in line 2 of each claim. There is insufficient antecedent basis for this limitation in the claim because an additive is not introduced in independent claim 1 from which the claims depend

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-2, 4-7, 23, 25-27, 29, 31-32, 34-36, and 39-43 are rejected under 35

U.S.C. 102(b) as being anticipated by Meder (US 5,212,017).

Meder discloses a method of activating an organic surface (polyimide resin in particular) to enhance adhesion of a further coating thereon comprising: applying a solvent (N,N'-dimethylacetamide) and an adhesion promoter (aminopropyltrimethoxysilane) to the organic surface, wherein contact of the organic surface with the solvent results in swelling of the organic coating (see abstract and col. 5, lines 17-40). Further, while Meder generally discloses the substrate as a polyimide resin substrate, Meder teaches in col. 11, lines 18-24 that the substrate may be an article of any configuration including in the form of a laminate, whereby the preferred uppermost coating/layer would necessarily be the desired surface of polyimide resin.

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As to claims 2 and 4-7, the adhesion promoter aminopropyltrimethoxysilane (which is an aminosilane) has at least one amine functional group, which is nucleophilic.

As to claims 25-26, the solvent dimethylacetamide is an organic solvent which is an amide.

As to claim 23, Meder teaches that the concentration of gamma-aminopropyltrimethoxysilane in dimethylacetamide is about 0.1% to about 49% in col. 7, lines 4-7, which falls within the claimed range. As to claim 29, therefore, the amount of dimethylacetamide must be less than about 99.9% based on the total weight of the combination of solvent and adhesion promoter.

As to claim 27, Meder teaches in col. 12, lines 63-68 that isopropanol is used as the solvent in some comparative examples. While it was not taught as the preferred solvent, it is stated to have adequately primed an abraded substrate.

As to claims 31-32, Meder teaches that additives, such as dyes, may be added to the primer composition (col. 7, lines 59-68). As to claims 34-35, since the additive is added to the composition, the solvent, adhesion promoter and additive are applied simultaneously.

As to claim 36, Meder teaches that the composition may be applied by spraying or brushing (col. 3, lines 16-18).

As to claim 39, Meder teaches that drying may be carried out in any conventional manner, including by air at room temperature (natural evaporation) or in an oven (forced convection evaporation) (col. 8, lines 22-27).

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As to claims 40-41, the process of Meder would necessarily produced the coated substrate product of claim 40. As to claim 41, Meder teaches that the substrate may be metal, plastic, glass or wood in col. 10, lines 23-32.

As to claims 42-43, the process of Meder is directed to an activation treatment as discussed above which results in swelling of an organic coating on a substrate.

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 24, 30, 33, 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meder.

As to claims 24 and 30, Meder teaches that the concentration of gamma-aminopropyltrimethoxysilane in dimethylacetamide is about 0.1% to about 49% in col. 7, lines 4-7. Therefore, the amount of dimethylacetamide must be within the range of 51-99.9%. Overlapping ranges are *prima facie* evidence of obviousness. It would have been obvious to one having ordinary skill in the art to have selected the portion of Meder's concentration range that corresponds to the claimed range. *In re Malagari*, 184 USPQ 549 (CCPA 1974).

As to claim 33, Meder is silent with respect to the amount of additive that may be added to its composition. It would have been obvious for one having ordinary skill in the art to have determined the optimum amount of additive through routine experimentation, such that it is

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enough to impart the additive properties but minimal enough to not affect the adhesive properties of the composition, in the absence of a showing of criticality. It is well settled that determination of optimum values of cause effective variables such as these process parameters is within the skill of one practicing in the art. *In re Boesch*, 205 USPQ 215 (CCPA 1980).

As to claim 37, Meder teaches that the substrate may be a variety of materials including resins, resin-bonded bodies, thermoplastic resins, and thermoset resins (col. 10, lines 23-32). It would have been obvious for one having ordinary skill in the art to have selected known thermoplastic or thermoset resins, including those claimed, as the substrate since Meder is broadly inclusive of a large variety of acceptable substrate surfaces.

As to claim 38, Meder teaches that the any coating material which will bond to the primed substrate may be used to coat the articles of its invention (col. 11, lines 55-57). It would have been obvious to have applied one of the claimed materials as the overlying layer with the expectation of successful results since Meder is inclusive and not limiting of any material that will bond.

10. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meder as applied to claims 1 and 26 above, and further in view of Confalone et al. (US 6,175,009).

Meder discloses that any aprotic solvents having the disclosed solubility parameter can be used in the primer composition of its invention. Confalone et al. is cited merely for its definition of a list of aprotic solvents, which include ethyl acetate and isopropyl acetate, in addition to those taught by Meder (DMF and DMA) (col. 16, lines 13-22 of Confalone et al.). It would have been obvious for one having ordinary skill in the art to have substituted another known aprotic

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solvent, including ethyl acetate or isopropyl acetate, for dimethylacetamide in the process of Meder with the expectation of similar and successful results since Meder teaches that any aprotic solvent may be used with success.

11. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meder as applied to claims 1 and 7 above, and further in view of Fey (US 5,248,334).

Meder discloses that other adhesion promoting compounds were screened for use in its composition (col. 12, lines 20-34), however Meder is limited to the screening of silane adhesion promoters. One skilled in the art would have been motivated to look to other non-silane adhesion promoting compounds for the composition of Meder. Fey is cited for its teaching of other adhesion promoting compounds, including organic amine compounds such as ethylenediamine and triethylenetetraamine (col. 4, lines 3-9). It would have been obvious for one having ordinary skill in the art to have substituted another known adhesion promoting compounds, including ethylenediamine or triethylenetetraamine, in the process of Meder with the expectation of similar and successful results since Meder teaches that other adhesion promoting compounds may have some success as well.

***Allowable Subject Matter***

12. Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not teach or fairly suggest use of DODA or TODA as the adhesion promoter compound for use in the method as claimed.



***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kirsten C. Jolley whose telephone number is 571-272-1421. The examiner can normally be reached on Monday to Tuesday and Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kirsten C Jolley/  
Primary Examiner, Art Unit 1715

kcj